

Chapter 7

Potential of real-time and integrated clinical data to drive continuous quality improvement in youth mental health services

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The 2014 Report of the National Review of Mental Health Programmes and Services by the National Mental Health Commission (NMHC) revealed fundamental shortcomings for mental health services across the lifespan.¹ Numerous other reports over the past 25 years have concluded that the quality of mental health care nationally^{2–5} and internationally^{6–8} is poor.

Service quality is an overarching concept that includes eight interrelated and internationally adopted domains,⁹ including:

- clinical safety (eg, how suicide risk is assessed and mitigated at service entry);
- accessibility and equity (eg, ease of access for high risk sub-populations);
- effectiveness and outcomes (eg, proportion of users who return to work or education);
- acceptability and satisfaction;
- efficiency, expenditure and cost;
- appropriateness (eg, matching service provision to clinical stage, which is an adjunct to mental health diagnosis that incorporates illness severity and risk of progression to facilitate appropriate treatment matching);
- continuity and coordination (eg, successful transitions from primary to secondary care); and
- workforce competence and capability (eg, assignment of skilled staff to specific interventions).

In recent years, there have been concerted attempts to collect and report consumer outcomes in Australian public sector mental health services.¹⁰ The National Mental Health Performance Framework¹¹ outlines clinical data capture across nine domains including effectiveness, efficiency, appropriateness, access, continuity, responsiveness, capability, safety and sustainability.

At present, there are major gaps in the data available (highlighted in an independent evaluation by headspace, Australia's Youth Mental Health Foundation);¹² 13 of the 24 identified National Mental Health Performance Framework data indicators remain undefined and require further development.¹¹ More recently, Primary Health Networks have been charged with commissioning regionally appropriate, community-based mental health services¹³ and have reported substantial challenges in accessing clinical data to assist them to fulfil their responsibilities.

These challenges arise in part from limitations associated with electronic medical record and minimum dataset systems, which

are typically divorced from the clinical data generated at the consumer–health professional level.^{14–18} Instead they rely heavily on measures of health system activity (in the case of minimum datasets) or have limited data extraction capability (in the case of electronic medical records). Neither are suitable for enabling continuous and real-time quality improvements in health care.^{14,15}

The mental health system trails behind the general health system in collecting and analysing standard health information for use at an individual treatment planning level and subsequently as aggregated data for quality monitoring at the service level.^{6,16,19,20}

Our approach has been to propose that co-designed, real-time and integrated health information technologies collecting and processing clinical data may prove to be the most powerful enabler of mental health services reform.

Through Phase 2 of Project Synergy, an online platform²¹ is now being further developed and trialled within face-to-face and online mental health services, with a focus on enabling quality improvements in service delivery. The further development of the online platform has been guided by three health system re-design principles outlined in two United States Institute of Medicine service quality reports.^{6,8} These principles are:

- care should be data-driven by utilising health information technologies to make the best scientific and clinical information available at the point of use (ie, real-time);
- care should be person-centred in that it respects the diversity of individuals and puts consumers in control of their own health; and
- care at the consumer level should also be service-minded, whereby broader coordination, integration and efficiency are key considerations.

Importantly, our online platform aligns with the National Mental Health Performance Framework¹¹ and Institute of Medicine^{6,8} service quality domains and captures associated performance indicators in real time (for examples, see Supporting Information, chapter 7, table 1). From a clinical data perspective, any consumer using the online platform is considered to be the foundational level, and their clinical data are obtained, with consent, at the time of collection, shared with their health professional(s), then integrated at the service level (eg, headspace) and potentially more broadly at the regional (eg, lead agency, Primary Health Network) or national (eg, government) level (Box). This integrated approach to service quality monitoring uses the rich

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quantitative and transactional data obtained from users interacting with the online platform. For example, the online platform supports routine outcome monitoring at the consumer–health professional level (ie, both the consumer and their health professional can track and monitor clinical outcomes and change treatment as needed) to improve treatment outcomes; and these same clinical data are de-identified and collated with many others at the local, regional and national levels to allow analysis of between-service and between-region variation. There is also evidence that such information can guide evidence-based practice, performance management, accountability, clinical safety monitoring and resource allocation, as well as overall quality improvement.²² Indeed, high quality health services tend to employ management practices that focus on quality and use service metrics to set quality targets.²³

Discussion

Over the past 10 years, new youth mental health services in Australia (such as headspace²⁴ as well as Primary Health Network-administered youth intensive services) have been designed to improve access to various levels of care for young people aged 12–25 years. Concerns have been raised, however, about

the quality of these services in terms of outcomes, variability between centres and appropriateness of care provided.^{12,25–27} Specifically, ongoing challenges persist with excessive wait times, lack of timely intervention for illness acuity and suicidal thoughts and behaviours, appropriate treatment provision for those with complex needs, premature treatment drop-out, and ongoing functional impairment after treatment.^{28–31}

In Chapter 6 we showed that a co-designed, consumer-facing and clinically oriented health information technology can be used to collect clinical data based on real-time consumer–service interactions, and that these data can be used to monitor and improve some aspects of service quality in young people, including better monitoring of risk and safety issues, outcomes and efficiency. The deployment of the online platform and its relationships with potentially useful and specific benchmarks for a headspace-style service and a more specialised youth mental health service are also set out in Supporting Information, chapter 7, table 1.

The co-designed online platform developed through Project Synergy collects, stores, scores and reports clinical data back to the consumer and their health professional to promote person-centred care, self-management, early intervention, shared decision making and routine outcome monitoring (see the Box in Chapter 1).³² These core principles align with those of similar health information technologies aiming to help consumers access better mental health care (eg, Mosenso mHealth solution).³³ The aggregation of service-level quality performance indicator data, however, remains unique to our online platform. The e-clinic prototype is now being extended to more specialised youth services, particularly of the types supported by Primary Health Networks and other hubs of more specialised practice (as proposed in the Australian Government 2019–20 Budget).³⁴

A key research question for Phase 2 of Project Synergy (2017–2020) is how the online platform can be further developed and integrated into face-to-face and online mental health services across the lifespan. Used more broadly over time, we believe there is great potential for such co-designed health information technologies to support service providers, their funders and the commissioners of those services to drive true person-centred, service-level and system-wide mental health services reform and improved service quality in Australia.

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Supporting Information

Additional Supporting Information is included with the online version of this article.